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STATE OF NEVADA
DEPARTMENT OF ADMINISTRATION

Enterprise I.T. Services Division

A TECHNOLOGY INVESTMENT REQUEST (TIR) GUIDE:
Defining Business, Technical & Security Requirements

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A TIR Guide: Defining Business, Technical and Security Requirements

Requirements gathering is a critical part of any technology project, whether it be for custom software development, the procurement of a commercial application or for some other implementation type. Poor requirements gathering can lead to costly rework, expensive workarounds, and/or poor purchasing decisions. A good set of functional and technical requirements are necessary to assure that the planned solution will meet stakeholder needs. All requirements should be defined in a manner that is objective, quantifiable and measurable, and in such a way that they can be independently evaluated to determine if the requirements have been met.

Requirements are collected and documented using the Requirements Matrix template, which was modeled after the requirements table used in the Purchasing Division's Request for Proposal (RFP) template. The completed Requirements Matrix needs to be appended to the TIR as Attachment A. Requirements defined in the Requirements Matrix need to be summarized at an executive level in the business case narrative of the TIR. Business functional requirements are summarized in TIR Section 3.3: Expected Business Functionality and Benefits. TIR Section 6: Technology Context is used to summarize important technical and security issues.

Requirements should address business functionality, technical and security needs based on stakeholder input. Exclusion of an important stakeholder group during requirements gathering may lead to an under scoped and under funded project.

Definitions of terms:

Types of Requirements

- **Functional Requirements** – **Functional** requirements specify particular results of a system or application related to supporting business functions. Functional requirements may be inputs, process requirements or specific outputs that define “what” a system is supposed to accomplish to meet business needs.
- **Technical Requirements** – Technical requirements specify overall system and application characteristics. These include hardware, software, local and wide area communications requirements and necessary technical interfaces. Some characteristics, such as data processing throughput, capacity, and storage parameters can be best defined by a professional capacity planner. This service is available from EITS. These requirements may be defined in terms of calculation or technical details. The definition should be objective, quantifiable and measur-

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able. The Requirements Matrix has a place to indicate whether the particular technical requirement depends on a DoIT billable service. When this is not known, a “?” can be inserted in the table (see example below). The range of EITS billable services are listed in the service catalog on the EITS Web site.

- **Security Requirements** – Security requirements establish the security parameters within which the application and system must operate. These policies, processes and procedures may be defined at the Federal, State, or local agency level. Please refer to the State’ security policies <http://infosec.intranet.nv.gov/Security_PSPs.htm>. Specific requirements that apply to all technology projects have been loaded into the TIR Requirements Matrix template for agency use. It is advisable to contact the Office of Information Security (OIS) during the process of completing your security requirements to further develop these requirements in your TIR Requirements Matrix (775-684-5800).

Entering Requirements into the Requirements Matrix:

The Requirements Matrix uses a unique number for each requirement, and provides for a brief requirement description, and an importance rating of each requirement. This information can be used later during RFP construction, and as a project management tool to track requirements through the development process.

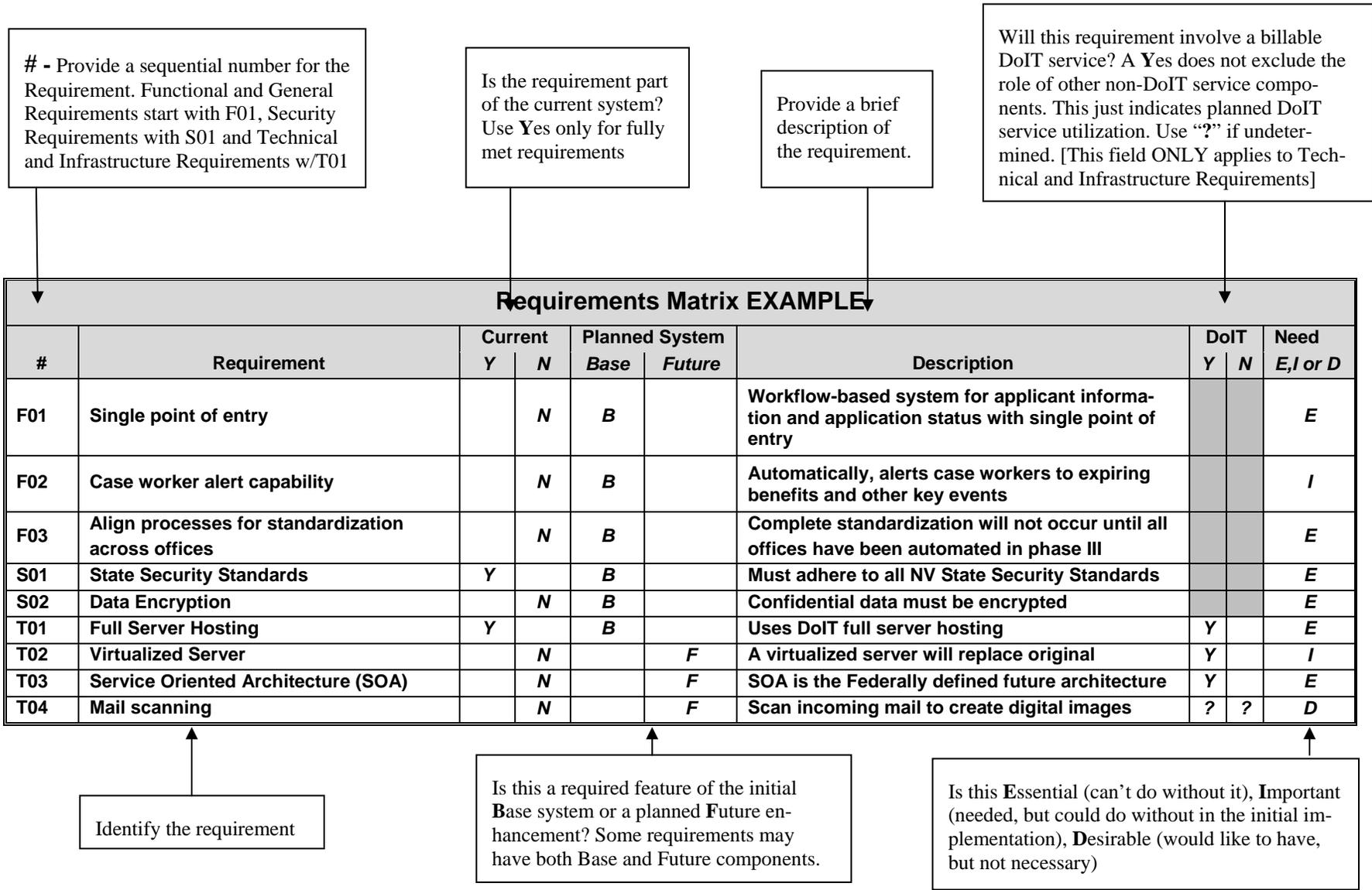
The Requirements Matrix Example (below) provides definitions for the fields and some example entries for a few Functional, Technical and Security requirements. Please note that there is a field for indicating if a particular requirement is to be met (entirely or in part) by a billable EITS technology service. EITS services are detailed in the EITS Service Catalog <<http://doit.nv.gov/DoITServices.htm>>, which provides details on services for various service areas, including:

- Mainframe Services
- UNIX support
- Email
- Physical & Virtual Server Hosting
- Database and Programming Support
- Wide Area Networking (SilverNet)
- Telecommunications Services

EITS Security services should not be specifically flagged “Y” as they are not a billable service, and since EITS’s Office of Information Security (OIS) should necessarily be involved through the IT planning and implementation phases of an IT project. Please contact OIS for assistance at *infosec.nv.gov* when you begin to work on your TIR.

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Example Requirements Matrix:



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Requirements Matrix Template:

Requirements Matrix									
#	Requirement	Current		Planned System		Description	DoIT		Need
		Y	N	Base	Future		Y	N	E,I or D
S01	Security Compliance			B		Required compliance with all applicable Federal requirements, rules and standards; Nevada Revised Statutes (NRS), State Information Security PSPs, and agency information security PSPs. Systems that store, process, transmit Federal data must comply with NIST SP 800-53.			E
S02	Encryption			B		Data encryption will be used in compliance with all applicable Federal requirements, rules and standards; Nevada Revised Statutes (NRS), State Information Security PSPs, and agency information security PSPs.			E

Add additional lines as necessary.